

**FEE TRANSMITTAL****for FY 2006**

Patent fees are subject to annual revision.

Effective December 8, 2004

**Complete if Known**

Application Number	10/687,130
Confirmation Number	7351
Filing Date	October 16, 2003
First Named Inventor	Sean Thomas Clark
Examiner Name	Dmitry Suhol
Art Unit	3725
Docket No.	9323M

**TOTAL AMOUNT OF PAYMENT (\$)** 500.00**METHOD OF PAYMENT**

1. [X] The Director is hereby authorized to charge indicated fees submitted on this form, credit any over payments, and charge any additional fee(s) during the pendency of this application to:

Deposit Account Number: 16-2480

Deposit Account Name: The Procter &amp; Gamble Company

**FEE CALCULATION****2. BASIC FILING FEE – Large Entity**

FILING FEE	SEARCH FEE	EXAMINATION FEE
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**Application****Type****Fee Paid**

Nonprovisional (\$300)	(\$500)	(\$200)	
Utility		(Total = \$1000)	<input type="checkbox"/>
Design (\$200)	(\$100)	(\$130)	
		(Total = \$430)	<input type="checkbox"/>
Reissue (\$300)	(\$500)	(\$600)	
		(Total = \$1400)	<input type="checkbox"/>
Provisional Utility filing fee		(Total = \$200)	<input type="checkbox"/>

**3. APPLICATION SIZE FEE:**

Sheets of Spec and Drawings ☐  
 (\$250 for each 50 sheets in excess of 100, except for sequence and program listings)

**SUBTOTAL (2)+(3) (\$)** ☐**4. EXTRA CLAIM FEES FOR UTILITY AND REISSUE:**

	Extra Claims	Fee from Below	Fee Paid
Total Claims <input type="checkbox"/> - 20** = <input type="checkbox"/> x	<input type="checkbox"/>	=	<input type="checkbox"/>
Independent Claims <input type="checkbox"/> - 3** = <input type="checkbox"/> x	<input type="checkbox"/>	=	<input type="checkbox"/>
Multiple Dependent claims:	<input type="checkbox"/>	=	<input type="checkbox"/>

\*\* or number previously paid, if greater; For Reissues, see below

**Fee Description**

Claims in excess of 20 (\$50 per claim)

Independent claims in excess of 3 (\$200 per claim)

Multiple dependent claim, if not paid (\$360)

\*\*Reissue: each independent claim over 3 and more than in the original patent (\$200 per claim)

\*\*Reissue claims: each claim over 20 and more than original patent (\$50 per claim)

**SUBTOTAL (4) (\$)** ☐**FEE CALCULATION (continued)****5. ADDITIONAL FEES**

Fee Description	Fee Paid
Extension for reply within 1 <sup>st</sup> month	(\$120) <input type="checkbox"/>
Extension for reply within 2 <sup>nd</sup> month	(\$450) <input type="checkbox"/>
Extension for reply within 3 <sup>rd</sup> month	(\$1,020) <input type="checkbox"/>
Extension for reply within 4 <sup>th</sup> month	(\$1,590) <input type="checkbox"/>
Extension for reply within 5 <sup>th</sup> month	(\$2,160) <input type="checkbox"/>
Information Disclosure Statement fee	(\$180) <input type="checkbox"/>
37 CFR 1.16(f) Late Oath/Declaration (nonprovisional)	(\$130) <input type="checkbox"/>
37 CFR 1.17 (q) Surcharge - Late provisional filing fee or cover sheet	(\$50) <input type="checkbox"/>
Non-English specification	(\$130) <input type="checkbox"/>
Notice of Appeal	(\$500) <input type="checkbox"/>
Filing a brief in support of an appeal	(\$500) [500.00]
Request for oral hearing	(\$1,000) <input type="checkbox"/>
Acceptance of unintentionally delayed claim for priority under 35 U.S.C. 119, 120, 121, or 365 (a) or (c)	(\$1,370) <input type="checkbox"/>
Other:	<input type="checkbox"/>

**SUBTOTAL(S) (\$)** ☐**SUBMITTED BY**

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41,751

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*Matthew P. Fitzpatrick*

Date

6/13/06

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**FROM:** Kathy Mueller (Typed or printed name of person signing Certificate)

Fax No. (513) 634-3007

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Application No.: 10/687,130

Inventor(s): Sean Thomas Clark et al.

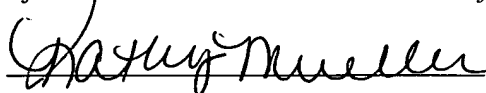
Filed: October 16, 2003

Docket No.: 9323M

Confirmation No.: 7351

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AF/22W

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/687,130  
Inventor(s) : Sean Thomas Clark et al.  
Filed : October 16, 2003  
Art Unit : 3725  
Examiner : Dmitry Suhol  
Docket No. : 9323M  
Confirmation No. : 7351  
Customer No. : 27752  
Title : Interactive Child-Development Education

**APPEAL BRIEF**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir,

This Brief is filed pursuant to the appeal from the U.S. Patent and Trademark Office Final Office Action mailed on January 13, 2006. A timely Notice of Appeal was filed on April 13, 2006.

**REAL PARTY IN INTEREST**

The real party in interest is The Procter & Gamble Company of Cincinnati, Ohio.

**RELATED APPEALS AND INTERFERENCES**

There are no known related appeals, interferences, or judicial proceedings.

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01 FC:1402 500.00 DA

### STATUS OF CLAIMS

Claims 1 and 4-12 are rejected.

The rejections of Claims 1 and 4-12 are appealed from.

Claims 2-3 and 13-21 have been previously canceled.

A complete copy of the appealed claims is set forth in the Claims Appendix attached herein.

### STATUS OF AMENDMENTS

An amendment was filed on January 26, 2006. This amendment corrected a spelling error and typographical error in each of Claims 1 and 12. An advisory action mailed on February 15, 2006 indicated that this amendment will be entered for purposes of appeal. The attached Claims Appendix incorporates these amendments.

### SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 and its dependent claims are directed to an educational apparatus comprising a structure divided into two or more areas. (Page 8, line 26 – page 9, line 4; Fig. 2 elements 38 and 39; Fig. 3 element 38; Fig. 4 element 39).

The first area houses a first three-dimensional interactive educational aide and the second area houses a second three-dimensional interactive educational aide. (Page 8, line 26 – page 9, line 4; Page 10, line 15 – page 11, line 17; Fig. 3 elements 42 and 40; Page 12, lines 8-29; Fig. 4 elements 52 and 54).

Each of the first and second aides when used by an adult user provides a demonstration directly to such user a demonstration which simulates the experience of a child engaged in an event or activity. The simulation provided by the first aide corresponds to a first child stage of development. The simulation provided by the second aide corresponds to a second child stage of development. The first and second stages differ from one another. (*Id.*; Page 13, line 11 – page 14, line 2; Fig. 5 elements 60 and 62).

Claim 12 is directed to an educational apparatus having first and second three dimensional interactive educational aides. The aides have labeling, indicia or other insignia which communicates their respective correspondence to a first and second stage

of child development. (Page 15, lines 6-18). Each of the aides proves information to an adult user relating to an aspect of child development where such information corresponds to said first or second stage respective stage of child development. (Page 10, line 15 – page 11, line 9; Fig. 3 element 42).

#### GROUND OF REJECTION TO BE REVIEWED ON APPEAL

- I. Claims 1, 4-5, and 8-10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Gibson et al. (US 5,413,488).
- II. Claim 12 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Stamm et al (US 2003/0118975).
- III. Claims 1, 4-7, 9 and 12 stand rejected under 35 U.S.C. § 103 as obvious over Yoon (US 6,418,495).
- IV. Claims 1, 4, and 9-11 stand rejected under 35 U.S.C. § 103 as obvious over Stamm et al. in view of “Broadlands Community Forums.”

#### ARGUMENTS

- I. **Claims 1, 4-5, and 8-10 are not anticipated under 35 U.S.C. § 102(b) by Gibson et al. (US 5,413,488).**

In order to maintain a rejection under 35 U.S.C. § 102 of a patent application claim, the Office Action must properly construe the claim, and show that each and every element of the properly construed claim is present in a single piece of prior art. Because the instant rejections of Claims 1, 4-5 and 8-10 proceed from a faulty claim construction, they have not been properly shown to be anticipated by the Gibson et al. patent.

Claims in *ex parte* prosecution must be accorded their broadest reasonable meaning as understood by those having ordinary skill in the art, considered in view of the entire patent disclosure. *In re Morris*, 127 F. 3d 1048, 1054, 44 USPQ2d 1023 (Fed. Cir. 1997); *In re Hyatt*, 211 F.3d 1367, 1373, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Two requirements are clear from these and other cases establishing the standards for

construction of patent application claims: that the frame of reference from which claim terms are to be viewed is always one of ordinary skill in the relevant art taking the entire disclosure into account, and that the meaning given to claim terms must be the broadest **reasonable** meaning.

Claim 1, requires a first and a second three dimensional interactive aide. Per the claim, the first aide

when used by an adult user provides directly to said user a demonstration of an event or activity, said demonstration **simulating the experience of a first child** engaged in said event or activity, **wherein said first child is in a first stage of development . . . .**

The claim contains a similar requirement with respect to the second aide, a second child, and second stage of development.

The Office Action does not point out how the Gibson et al. patent meets these limitations. Rather, the Office Action cites to such items as a steering wheel 4, toys and books (column 4, lines 56-58) as meeting these limitations. A comparison of the claim language, and the disclosure of the patent, however, reveals that this disclosure clearly does not meet the above quoted portions of Claim 1. For example, there is no disclosure pointed to in Gibson et al. that the steering wheel, books, or other toys **simulate** any experience of a child in a particular stage of development when such structures are used **by an adult**. These requirements and the structural implications of these requirements are positively recited in Claim 1 and must be considered during examination. The analysis in the Office Action focuses on the child "playing" with the Gibson et al. structure, which has nothing to do with Claim 1. By contrast, Claim 1 is about an interactive simulation for an **adult**. Specifically, Claim 1 is about an interactive simulation for an adult of a **child's experience**. The Office Action does not address this aspect of the claim at all.

The most pertinent dictionary meaning of the word "simulation" is "the imitative representation of the functioning of one system or process by means of the functioning of another." In other words there must be some aspect of something mimicking or acting as some sort of representation of something else. The toy devices simply offer no such simulation capability. In fact, the Office Action makes no attempt to argue that they do. Rather, the Office Action maintains that an adult playing with a steering wheel, for example, would inherently experience the sense of touch, that such experience would be

identical to a child's experience and, therefore, would experience a "simulation" of a child using the steering wheel.

The difficulty with this meaning given to "simulation" is that it is so broad as to render the claim limitation meaningless. Such lack of meaning combined with the clear teachings of the specification render the claim construction adopted by the Office Action unreasonable. Under the Office Action's definition, quite literally every mechanical device or object in the world could properly be considered capable of providing a "simulation" of every other person in the world's experience using that device or object. Such a construction which effectively deprives the term of all meaning whatsoever should be presumed to be unreasonable. This situation is like that faced in Curtis-Wright Flow Control Corp. v. Velan, Inc., 438 F.3d 1374, 77 U.S.P.Q.2d 1988 (Fed. Cir. 2006). There, a construction of the claim term "adjustable" which was not limited by any time, place, manner, or means of adjustment was too encompassing of virtually all mechanical devices and too divorced from the description in the specification to be correct.

Here too, the applicants have pointed to numerous examples in the specification of the claimed three dimensional interactive education aides. The Office Action dismisses applicants' references to these portions of the specification as an attempt to read limitations from the remainder of the specification into the claims. However, the claim terms in Claim 1, while functional in some respects, are a proxy for a class of **structures**. The examples in the specification are examples of such **structures**. These examples are pointed to not in order to import limitations into the claim, but to point out why construction of terms such as "simulation" which are in no way limiting are inconsistent with the specification, contrary to the reading one of skill in the art would give such terms in view of the entire disclosure, and consequently unreasonable.

To take but one example, the wobble board described on page 12 (lines 18-23) will be somewhat unstable when an adult stands on it. This lack of stability as compared to a conventional floor provides to the adult user a simulation of the experience a child in the toddler stage of development would have in attempting to walk. The Office Action's construction of the limitation quoted above would find any floor in the world proves the claimed simulation because both an adult and a child can walk on a floor in much the same way. Given this reasoning, the claim language quoted above can be met if the physical response of the object is the same, or if the adult user can imagine the experience a child would have. This, however, is not the claim language. The claimed structures (three dimensional interactive educational aides) must provide a simulation to

an adult user of the experience **of a child in a second stage of development**. The fact that basic realities (such as the force of gravity and the support of the floor) are similar as compared to a child and an adult does not mean that an adult using a completely conventional structure such as a door receives any simulation of a child's experience (where the child is in a particular corresponding stage of development) using the same door. Again, if this were the case, then all objects in the world meet this standard.

There is no disclosure in Gibson et al. that the steering wheel, blocks, books, etc. would respond any differently to being manipulated by an adult than by a child. Nor is there any disclosure that the structures of Gibson et al. would provide a simulation of any experience a child in a given stage of development might encounter. The point of the citation to the specification was to contrast this lack of disclosure with examples in the specification which **do** meet the claim language – not to argue for an importation of limitation into the claims. The structures disclosed in the instant application respond to interaction with an **adult** in a way that **simulates to the adult** the reaction or experience a child in a given stage of development would encounter.

Another deficiency in the anticipation rejection over Gibson et al. is that the Gibson et al. patent has not been shown to disclose first and second three dimensional interactive educational aides which simulate the experience of a first and second child in a first and second stage of development, respectively. The Office Action effectively reads out the claim terms relating to correspondence of the interactive structures with differing stages of development and reads out the terms relating to simulation. For example, the Final Action on page 2 notes “With respect to the two different stages of development, as broadly required by claim 1, Gibson's interactive aides encompass such features since to turn the steering wheel a user would have to be developing his/her muscles and coordination (considered to be part of a second stages of development), while to view the contents of a book the user would have to be developing his/her vision (considered to be part of first stage of development). This teaching clearly does not meet the requirements of the claim terms.

At best, this reading of the Gibson et al. reference establishes that an **adult** must use (or “develop” according to the Office Action) his or her muscles to turn a steering wheel, or use (or “develop”) his or her vision to view a book. This, however, is not what is claimed. Claim 1 requires the interactive aide to simulate the experience of a first (and second) **child** in a first (and second) stage of development. The development of the adult user's vision or muscles is irrelevant to this claim language. The claim language is not



met by an adult **observing a child** in a first or second stage of development interacting with the claimed aides to evaluate the development of the child. The claim language clearly requires the simulation and corresponding demonstration to be provided directly to the adult user when the device is used by the adult.

By ignoring these express claim requirements, the Office Action deprives key claim terms of any reasonable meaning. Further it is only by ignoring such meaning, that the Office Action is able to find all elements of Claims 1, 4-5 and 8-10 present in the Gibson et al. patent.

**II. Claim 12 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Stamm et al (US 2003/0118975).**

The Stamm et al. publication has not been shown to meet each and every limitation of Claim 12 as is required for an anticipation rejection. The final paragraph on page 3 carrying over to page 4 of the Final Action maintains:

Stamm discloses a system and method facilitating early childhood brain development which utilizes a number of education aides (102) containing a number of activity items which relate to a specific stage of development (infant, baby, toddler, preschooler). Stamm further teaches that his educational aides are comprised of indicia which communicates [sic] the correspondence of the educational aides to the specific stage of development (figures 5-8).

This analysis is the entirety of the reasoning supporting the rejection of Claim 12 over Stamm et al. Stamm et al. is directed to a series of activities with corresponding instructional materials and items which may be used to facilitate development of children. This is not what is claimed in Claim 12, however. Stamm et al. has not been shown to disclose two or more three dimensional interactive educational aides which provide information to an **adult user** relating to an aspect of child development corresponding to a particular stage of development. At best, Stamm et al. discloses instructions which generally provide information which may be read regarding childhood development. Such instruction sheets (such as those shown in figures 5-8) are not three dimensional and are not interactive as those terms are used in the claim (see, e.g. the specification at page 10, line 33 – page 11, line 9).

Additionally, the cited disclosure of Figures 5-8 does not in fact provide evidence that the three dimensional interactive aides **themselves** are provided with common

labeling, indicia or other insignia communicating their correspondence to a particular stage of child development. The cited figures merely describe activities that one could engage in using various supplies or items. This disclosure does not meet the clear language of Claim 12 which requires that the **aides** be labeled and that such labeling (or insignia or indicia) communicate the correspondence of the **aide** to a particular stage of development.

Because each and every element of properly construed Claim 12 has not been shown to be disclosed in Stamm et al., the rejection of this claim under 35 U.S.C. § 102(e) should be reversed.

**III. Claims 1, 4-7, 9 and 12 stand rejected under 35 U.S.C. § 103 as obvious over Yoon (US 6,418,495).**

Claims 1, 4-7 and 9

The Office Action has not made out a proper *prima facie* case of obviousness over Yoon with respect to any of these claims.

The Office Action is deficient with respect to at least two of the Graham factors: determining the scope and content of the prior art, and resolving the differences between the claimed invention and the prior art. The deficiencies with respect to claim construction noted above with respect to Gibson et al. apply to the rejection under § 103 over Yoon as well. The Final Action accords the claim terms in Claim 1 the same construction noted above, and the comments made above are also relevant to the rejection under § 103.

Claim 1, for example, claims a first and a second three dimensional interactive aide. Per the claim, the first aide

when used by an adult user provides directly to said user a demonstration of an event or activity, said demonstration **simulating the experience of a first child** engaged in said event or activity , **wherein said first child is in a first stage of development . . . .**

The claim contains a similar requirement with respect to the second aide and a second child in a second stage of development.

The Office Action does not point out how the Yoon patent meets these limitations. Rather, the Office Action cites to such items as a learning board 11 and balls 44 as meeting these limitations.

A comparison of the claim language, and the disclosure of the patent, however, reveals that this disclosure clearly does not meet the above quoted portions of Claim 1. In this regard, all of the discussion above with respect to Gibson et al. is equally applicable with respect to Yoon. Yoon merely discloses various toys and activities for children. These have not been shown to be claimed interactive aides which when used by an **adult simulate** the experience of a **child** in a **particular stage of development**.

Additionally, the resolution in the Office Action of even the acknowledged differences between Yoon and Claim 1 is insufficient to establish a *prima facie* case of obviousness. The Office Action on page 5 concludes that it would have been obvious to include educational aides “directed to different stage of development of children since Yoon clearly discloses that the three-dimensional interactive aides of this invention can be customized to a variety of ages and a variety of educational needs.” Even if this is the case, however, this only provides motivation for providing toys, activities and the like geared toward **children** in different age groups. This is not the same as providing a series of interactive aides which **simulate to an adult** an experience of a child in a **series of different stages of development**, which is the invention of Claim 1.

Given the factual difference between the prior art as applied and the claim language and the failure of the prior art even when modified per the Office Action to teach or suggest all claim elements, there has been no proper *prima facie* case of obviousness with respect to Claim 1. As such, this rejection should be reversed. Similarly, the rejections of Claim 4-7, and 9 which depend from Claim 1 should also be reversed for at least the reasons discussed above with respect to Claim 1.

#### Claim 12

Claim 12 has also been rejected as obvious over the Yoon patent. The Office Action asserts on page 5 that Yoon discloses (at column 2, lines 52-60) that the three dimensional interactive educational aides are related by common labeling, indicia or other insignia. The Yoon patent does indeed disclose that the activity items can be provided with indicia relating such items as balls to other items such as learning boards.

However, this disclosure does not suggest that such indicia, labeling, or insignia communicates the correspondence of the aides to a **particular** stage of child development (such as a first stage and a second stage) which is the requirement of Claim 12. The Office Action makes no attempt to resolve this difference between the prior art and Claim 12 as establishing a *prima facie* case of obviousness requires. As such, this rejection should be reversed.

**IV. Claims 1, 4, and 9-11 stand rejected under 35 U.S.C § 103 as obvious over Stamm et al. in view of “Broadlands Community Forums.”**

The Office Action has not made out a proper *prima facie* case of obviousness with respect to any of these claims. Firstly, the applicants do not concede that “Broadlands Community Forums” (a printing of what appears to be a series of internet bulletin board posts) is indeed prior art. The printed pages do appear to give dates of posting which would qualify as § 102(a) art, but applicants have no way of knowing if the “posting” date corresponds to the date that such matter was hosted on the internet which would make it “published.” Therefore, applicants do not concede that this information in fact has been shown to be a “printed publication” within the meaning of § 102(a) as of the filing date of the present application. Additionally, as § 102(a)/103 art, it is subject to removal under Rule 131. Applicants reserve the right to contest the prior art status of this information, but need not do so at this time, because even assuming it is in fact prior art, it is insufficient to support the rejections made. Secondly, applicants do not concede that the Broadlands Community Forums document would be considered pertinent or analogous art by one having ordinary skill in the art to which the invention of Claim 1 pertains. It is unclear whether the Office Action is relying on the statements in the posts themselves or the description of what day care “experts” do. In any event, objections to these evidence of the state of the prior art are expressly not waived, but for purposes of responding to the rejections it is assumed that this document is in fact proper analogous art. Even with this assumption, the rejections fall short for the reasons articulated below.

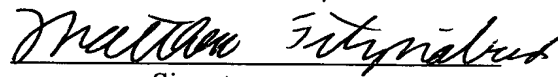
The rejection of Claim 1 over Stamm et al. in view of Broadlands is premised on the same basic application of the Stamm et al. patent application described above with respect to Claim 12. The Office Action on page 6 asserts that the toys and activity supplies of Stamm et al. when used by an adult user would inherent simulate the experience of a user child of the aide. This is simply not the case, the Office Action makes no showing how ball, for example, inherently simulates the experience of a child

in a particular stage of development to an adult. Even granting that Broadlands properly suggest modifying Stamm et al. to divide the structure into two or more areas, the basic failure of Stamm et al. to disclose the **claimed** interactive three dimensional educational aides having all of the claimed properties (as distinguished from three dimensional educational items generally) has not been remedied. In this regard, the arguments with respect Ground of Rejection I pertaining to claim construction are equally applicable here. As such, the combination of the Stamm et al. patent and the Broadlands document has not been shown to make out a proper *prima facie* case of obviousness of Claim 1 or of Claims 4, and 9-11 which depend from Claim 1. Therefore, these rejections should be reversed.

SUMMARY

In view of all of the above, it is respectfully requested that the Honorable Board of Patent Appeals and Interferences reverse the rejections of Claims 1 and 4-12.

Respectfully submitted,



Signature

Matthew P. Fitzpatrick

Typed or printed name

Registration No. 41,751

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Date: June 13, 2006

Customer No. 27752

## CLAIMS APPENDIX

1. (Rejected) An educational apparatus comprising:
  - a. a structure divided into two or more areas wherein said structure comprises at least a first area and a second area,
  - b. a first three dimensional interactive educational aide, said first three dimensional interactive education aide being located in said first area,
  - c. a second three dimensional interactive educational aide, said second three dimensional interactive educational aide being located in said second area,
  - d. wherein said first three dimensional interactive educational aides when used by an adult user provides directly to said user a demonstration of an event or activity, said demonstration simulating the experience of a first child engaged in said event or activity, wherein said first child is in a first stage of child development, and
  - e. wherein said second three dimensional interactive aide when used by an adult user provides directly to said user a demonstration of an event or activity, said demonstration simulating the experience of a second child engaged in said event or activity, wherein said second child is in a second stage of child development wherein said first stage of development and said second stage of development differ from one another.
- 2-3 (Canceled)
4. (Rejected) The educational apparatus of claim 1 wherein said first interactive educational aide provides information regarding a first aspect of child development wherein said first aspect is chosen from the group consisting of physical development, motor skills, emotional development, sensory development, and coordination, and wherein said second interactive aide provides information regarding a second aspect of child development wherein said second aspect is chosen from the group consisting of physical development, motor skills, emotional development, sensory development, and coordination.

5. (Rejected) The educational apparatus of claim 1 wherein said structure is movable.
6. (Rejected) The educational apparatus of claim 1 wherein said structure is capable of being placed into a portable configuration.
7. (Rejected) The educational apparatus of claim 1 wherein said structure comprises a tent.
8. (Rejected) The educational apparatus of claim 1 wherein said structure comprises a trailer.
9. (Rejected) The educational apparatus of claim 1 wherein said structure is self-contained.
10. (Rejected) The educational apparatus of claim 1 wherein said structure is divided into at least four areas, wherein said structure comprises at least a first area, a second area, a third area, and a fourth area.
11. (Rejected) The educational apparatus of claim 10 wherein said first area is adapted to provide information regarding a first baby stage of development wherein said first stage of development pertains to babies prior to being able to crawl or walk, said second area is adapted to provide information regarding a second baby stage of development wherein said second stage of development pertains to babies who are able to crawl or walk for short distances, said third area is adapted to provide information regarding a third stage of development wherein said third stage of development pertains to children who are able to walk and are learning to run, and wherein said fourth area is adapted to provide information regarding a fourth stage of development wherein said fourth stage pertains to children who are able to run and are able at least partially to dress or undress themselves.

12. (Rejected) An educational apparatus comprising a first three dimensional interactive educational aide, said first three dimensional interactive educational aide comprising labeling, indicia, or other insignia which communicates the correspondence of said first three dimensional interactive educational aides to a first stage of child development, and a second three dimensional interactive educational aide, said second three dimensional interactive educational aide comprising labeling, indicia, or other insignia which communicates the correspondence of said second three dimensional interactive aide to a second stage of child development, wherein each of said first and said second three dimensional interactive educational aides provides information to an adult user relating to an aspect of child development said information corresponding to one of said first or said second stage of child development.

13-21. (Canceled)



## EVIDENCE APPENDIX

### Exhibit A

U.S. Patent 5,413,488 issued to Gibson et al.

### Exhibit B

U.S. Patent Application 2003/0118795 to Stamm et al.

### Exhibit C

U.S. Patent 6,168,495 issued to Yoon.

### Exhibit D

“Broadlands Community Forums” printout.

### Exhibit E

“Merriam-Webster OnLine Dictionary” printout of the word *simulation*.

Appl. No. 10/687,130  
Atty. Docket No. 9323M  
Appeal Brief dated June 13, 2006  
Reply to Office Action of January 13, 2006  
Customer No. 27752

#### RELATED PROCEEDINGS APPENDIX

There are no related proceedings for this Appendix.



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Author

Topic

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**speckhard**

Diamond Member

★★★★★

275 Posts

Posted - 05/28/2003 : 13:38:07

Has anyone heard anything about this school/daycare in Sterling?

Just wondering....

**greggbroadlands**

Senior Member

★★★★★

96 Posts

Posted - 05/28/2003 : 13:44:19

It's supposed to be very good. It's also very expensive. Infants are \$1350 a month, ouch.

**teak**

Diamond Member

★★★★★

285 Posts

Posted - 05/28/2003 : 15:01:48

My girlfriend is a writer for education week so I'll say she's an expert on the subject of education below college level. She said Creme de la creme is one of the best in the country. If you have the money and want the best preschool/daycare, well it's the place. \$1350 is not bad, I heard it might be more. I can go to college for less. For whats it's worth here is an article her co-worker wrote.

<http://www.edweek.org/ew/newstory.cfm?slug=03creme.h19>

Not sure but across the street from the Mobil gas station is the Monissouri (sp?) school. I believe it's a different way of teaching using different approach to problem solving. Don't know too much about it but I assume it's another big ticket education place for young minds. They might also have a daycare center.

To all parents, whats the return on investment on expensive education? I think it's cheaper to buy sports equipment and hope for the best. LeBron James - basketball, signed \$90 million from Nike, graduating from high school this year.

Freddy Adu - Soccer, from this area and signed \$1. million contract with Nike, still in high school.

Tiger Woods - you know him.

Williams sister - bada\$\$ tennis players, worth millions.

-Teak  
educated enough :)



**mlfrank**

Junior Member



49 Posts

Posted - 05/28/2003 : 15:18:13

A co-worker of mine just signed his daughter up for private all-day kindergarten there next fall. They were VERY impressed with the facilities and teachers and I think they are paying about \$1,000 a month (it's less because it's an older child not an infant I'm sure).



**xianghua71**

New Member



8 Posts

Posted - 05/29/2003 : 14:33:34

<Moderator Edit>

Sorry Bruce, I had to edit your response. We do not allow companies to advertise their services here without permission. If you would like to answer questions please feel free, but your post was more of an ad for your company. If you would like to advertise on our site, please contact the HOA. Sorry if you feel this is strict, but we do enforce this rule.

Please view [http://hoa.broadlands.org/forum34/topic.asp?TOPIC\\_ID=143](http://hoa.broadlands.org/forum34/topic.asp?TOPIC_ID=143) for more information.

</Moderator Edit>

Bruce Karpas,  
President and Chief Executive,  
Crème de la Crème



**speckhard**

Diamond Member



275 Posts

Posted - 06/02/2003 : 10:48:06

Bruce:

I did not get to see your post but if you have info for me please forward to [dspeckhard@elmco.com](mailto:dspeckhard@elmco.com)

Thanks!



**speckhard**

Diamond Member



275 Posts

Posted - 06/02/2003 : 10:49:31

I am wondering about your girlfriend's resource on Ashburn area daycares like Open Arms and Winwood.

-



**j12toad**

Junior Member



42 Posts

Posted - 06/04/2003 : 13:32:40

My wife worked at winwood... and she has worked at serveral others in Ashburn. She has said it was the best she ever worked at, they have

great managers and great owners, that truly love the kids and are not in it for the money.

Edited by - j12toad on 06/04/2003 13:33:57

**greggbroadlands**

Senior Member

★★★★★

96 Posts

Posted - 06/04/2003 : 14:57:26



If they weren't in it for the money, they wouldn't have expanded their infant room to hold more children. They also advertise a ratio of 3 to 1 in their infant room, but we never saw it. It was always 4 to 1. We didn't have a good experience there and wouldn't recommend it.

**speckhard**

Diamond Member

★★★★★

275 Posts

Posted - 06/12/2003 : 10:20:31



I would like to take a poll and see where people from our neighborhood are sending their toddlers and then their kindergarten aged kids?

quote:

*Originally posted by greggbroadlands*

If they weren't in it for the money, they wouldn't have expanded their infant room to hold more children. They also advertise a ratio of 3 to 1 in their infant room, but we never saw it. It was always 4 to 1. We didn't have a good experience there and wouldn't recommend it.

**cricket**

Junior Member

★★★

37 Posts

Posted - 06/17/2003 : 09:04:59



I send my son to Children's World but I want to pull him out. I'm not really happy with the people in charge there. Any feedback on Openarms or Winwood?

[quote]Originally posted by speckhard

I would like to take a poll and see where people from our neighborhood are sending their toddlers and then their kindergarten aged kids?

**greggbroadlands**

Senior Member

★★★★★

Posted - 06/17/2003 : 09:16:51



We had our child in Children's World, then Winwood and weren't happy

96 Posts

with either. We're now at the new Kindercare in Ashburn Village. They split their infants into 4 rooms by age groups. The class sizes are no larger than 8 per room. It's nice to have all the kids around the same age together. All seems good and the kids are happy.



**speckhard**  
Diamond Member  
★★★★★

275 Posts

Posted - 06/18/2003 : 11:13:39



I have not heard many good things about Children's World. Le Pettit academy and Kindercare. I think because they are a chain, it really depends on that particular branch.

quote:

Originally posted by greggbroadlands

We had our child in Children's World, then Winwood and weren't happy with either. We're now at the new Kindercare in Ashburn Village. They split their infants into 4 rooms by age groups. The class sizes are no larger than 8 per room. It's nice to have all the kids around the same age together. All seems good and the kids are happy.



**speckhard**  
Diamond Member  
★★★★★

275 Posts

Posted - 06/23/2003 : 12:44:50



Though I am interested in what issues you had with Winwood as we are pretty heavily considering them. Don't want to make a mistake.

Thanks!

quote:

Originally posted by greggbroadlands

We had our child in Children's World, then Winwood and weren't happy with either. We're now at the new Kindercare in Ashburn Village. They split their infants into 4 rooms by age groups. The class sizes are no larger than 8 per room. It's nice to have all the kids around the same age together. All seems good and the kids are happy.



**hopper**  
Starting Member

2 Posts

Posted - 06/24/2003 : 09:58:05



I just recently relocated to Northern Virginia and I have done much research on the childcare in Ashburn. My child attends Children's World in Broadlands and I WOULD NOT recommend it. First, the Director should not be working there and most of the time is very rude. The director does not take your concerns into account. Second, the teacher turnover rate is extremely high and the ones currently there are not happy at all. Third, the teacher ratio is never followed. Most of the time there is one infant teacher with 8 infants and under state law there is

supposed to be 1 teacher for every 5 infants. The two year old room is just insane. The new teacher hired does not speak English and the regular teacher in this room does not come in until 9:30. The kids are out of control ie. they go around biting, kicking and hitting and no discipline exists. You will constantly here kids crying from being attacked from some of the kids and the teachers do nothing. Most daycares have rules to remove kids with contant behavior problems but they do not. Last, walk in there unexpected and you will be shocked. There is never enough teachers in the rooms and if the director happens to see you coming she will actually run to the room your child is in to make sure the state laws are being followed. My child has been left in diapers for hours, left crying after being hit by another child. No comfort is given to the kids when parents are not around. The only teacher that seems to care is the infant room teacher who is not there at the moment(2 month vacation) and she usually has too many infants to take care of and also the third grade teacher who bounces around from classrooms. I would not recommend this daycare at all. I am trying to remove my child but all daycares having waiting lists. Remember, daycares have waiting lists for a reason. Why does Children's World have so many open slots????

Hopper



**speckhard**

Diamond Member

★★★★★

275 Posts

Posted - 06/24/2003 : 10:12:05



Awful! I am so glad you shared that with me. I already had issues with chains, so this really cements that for me. What other daycares are you looking into?

We really need to be proactive and talk to each other about our children's rights, and concerns when it comes to their care. I for one, am glad you have spoken up.



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## simulation

One entry found for **simulation**.

Main Entry: **sim·u·la·tion** 

Pronunciation: "sim-y&- 'lA-sh&n

Function: *noun*

Etymology: Middle English *simulacion*, from Middle French, from Latin *simulation-*, *simulatio*, from *simulare*

**1** : the act or process of simulating

**2** : a sham object : **COUNTERFEIT**

**3 a** : the imitative representation of the functioning of one system or process by means of the functioning of another <a computer *simulation* of an industrial process> **b** : examination of a problem often not subject to direct experimentation by means of a simulating device

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**CURTISS-WRIGHT FLOW CONTROL CORP., Plaintiff-Appellee, v. VELAN,  
INC., Defendant-Appellant.**

05-1373

**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

*438 F.3d 1374; 2006 U.S. App. LEXIS 3521; 77 U.S.P.Q.2D (BNA) 1988*

**February 15, 2006, Decided**

**PRIOR HISTORY:** [**\*\*1**] Appealed from: United States District Court for the Western District of Texas. Judge Orlando L. Garcia.

**DISPOSITION:** VACATED and REMANDED.

**COUNSEL:** Mark M. Supko, Crowell & Moring LLP, of Washington, DC, argued for plaintiff-appellee. With him on the brief were Mark H. Neblett and John R. Perkins, Jr.

Willem G. Schuurman, Vinson & Elkins L.L.P., of Austin, Texas, argued for defendant-appellant. With him on the brief were Michael J. Smith, Adam V. Floyd, Michael A. Valek and H. Kenneth Prol.

**JUDGES:** Before RADER, Circuit Judge, FRIEDMAN, Senior Circuit Judge, and DYK, Circuit Judge.

**OPINIONBY:** RADER

**OPINION:** [**\*1375**] RADER, Circuit Judge.

The United States District Court for the Western District of Texas issued a preliminary injunction in favor of Curtiss-Wright Flow Control Corporation (Curtiss-Wright). After construing claims of *U.S. Patent No. 6,565,714* (the '714 patent), the trial court determined that Curtiss-Wright had shown a likelihood of success on the merits of its infringement action against Velan, Inc. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, Civil Action No. SA-04-CA-1157-OG, slip op. at 18 (W.D. Tex. 2005) (Preliminary Injunction Order). Because the district court erred in its [**\*\*2**] construction of the term "adjustable," this court vacates the preliminary injunction and remands.

I.

As described in the '714 patent, petroleum refineries recover valuable products from the heavy residual oil that is a byproduct of the refining process. '714 patent, col. 1, ll. 20-60. That recovery process is known as "delayed coking." Id. Delayed coking heats the liquid petroleum residue to very high temperatures and then feeds the heated residue into a "coke drum." In the drum, cracking and polymerization converts the liquid residue into valuable distillates and solid coke. Id. A typical coke drum might be 120 feet high and 30 feet in diameter with openings at the top and bottom. These openings have large, flanged metal plates known as "heads." When the drum is full, the operators purge the byproducts and "de-head" the drum. During de-heading, the operators manually remove the top and bottom heads to remove the solid coke. Id. De-heading is both difficult and dangerous. Coke drums are very hot and the heads can weigh four tons. During removal, heated residues and coke can spill out and injure nearby workers. Id.

Curtiss-Wright's '714 patent claims a system and [**\*\*3**] a method that de-heads the coke drum without manually removing the heads. '714 patent, col. 3, ll. 45-60. Instead, the de-heading system of the '714 patent includes a dual seated, linear motion, blind gate valve, i.e., a "de-header valve." Id. The upper and lower seats have aligned circular openings that make a single hole at, for example, the bottom of the coke drum. The blind moves linearly, horizontally between the two seats to open and close the hole at the base of the coke drum.

Figure 2 of a related patent, *U.S. Patent No. 6,660,131* (the '131 patent), n1 shows this type of de-header valve 12 attached to a coke drum 18. Figure 11 of the '131 patent, also reproduced below, shows the internal details of the de-header valve 12. n2 In these figures, the de-header valve 12 has a body 46 and upper and lower seats, [**\*1376**] 34 and 38. The upper and lower seats 34 and 38 are large metal rings whose openings line up to form a single hole. The upper seat 34 is a dynamic,

live loaded seat, while the lower seat 38 is static. '714 patent, col. 8, ll. 51-62. Although not shown in figure 2, the blind, element 106 in figure 11, moves laterally within element 54. When the blind moves to the left, [\*\*4] it opens the hole between seats 34 and 38. Thus, when the circular opening in the blind lines up with the openings in the seats, the blind is open.

n1 Figure 2 of the '131 patent is the formal version of figure 2 of the '714 patent, which was issued with informal figures. The two figures do not differ in any material respect.

n2 Figure 11 of the '131 patent is the formal version of figure 8 of the '714 patent. The two figures do not differ in any material respect.

[SEE FIGURE 2 IN ORIGINAL]

[SEE FIGURE 11 IN ORIGINAL]

The '714 patent describes the upper and lower seats, with reference to figure 2, as follows:

In the preferred embodiment, the static seat is a one piece seat that is securely [\*1377] fastened to de-header valve 12 and is preferably non-adjustable. . . . In contrast to the static seat, dynamic, live loaded seat is a moveable and adjustable seat that is energized from without the process stream via live seat adjustment mechanism. The function of the dynamic, live loaded seat is to provide point to point fine tuning of the system, and particularly the blind as it is sealed between upper and lower seats 34 and 38.

'714 patent, col. 9, [\*\*5] ll. 9-19. Thus, as the blind moves between the top and bottom seats, the dynamic, live loaded seat (closest to the drum interior) exerts force downward on the blind. The invention adjusts that force to allow linear movement of the blind between the seats while keeping a tight seal on the drum. See *id.* at col. 4, ll. 17-67. In the preferred embodiment, the invention accomplishes this vital adjustment with an adjustment mechanism (the circled element in the upper-left-hand portion of figure 11). *Id.* at col. 13, ll. 43-50. The adjustment mechanism of the '714 patent functions to facilitate operation of the de-header system. See, e.g., *id.* at col. 14, ll. 50-55.

On December 16, 2004, Curtiss-Wright sued Velan, claiming that a Velan valve infringed the '714 patent. On March 1, 2005, Curtiss-Wright sought a preliminary injunction to prevent Velan from launching a new valve at an upcoming industry conference, alleging infringement of claims 14, 33 and 36 of the '714 patent. Velan's valves do not include adjustment mechanisms like those disclosed in the '714 patent. Instead, Velan's valves include upper dynamic, live loaded seats with internal biasing springs. These springs modulate [\*\*6] the pressure on the seat to allow the blind to move. Velan designed its seats to allow replacement of these biasing springs. To change the biasing force in Velan's dynamic, live loaded seats, an operator must replace these internal biasing springs. Thus, Velan's system envisions removal of the valves from the coke drum. Preliminary Injunction Order, slip op. at 16-17.

Claim 14 of the '714 patent recites:

14. A coke drum bottom de-heading system comprising:

at least one coke drum containing manufactured coke therein, said at least one coke drum having a flanged bottom orifice;

a de-header valve removably coupled to said coke drum to facilitate the removal of said coke from said at least one coke drum by de-heading said at least one coke drum, said de-header valve comprising:

a main body having an [sic] flanged orifice therein for removably coupling said de-header valve to said flanged bottom orifice of said coke drum;

an upper and lower bonnet coupled to said main body;

an adjustable dynamic, live loaded seat coupled to said main body;

a static seat coupled to said main body in opposition to said dynamic, live loaded seat; and

a blind coupled to said main body [\*\*7] and actuated by an actuator, said blind capable of moving in a bi-directional manner within said de-header valve

between said dynamic, live loaded and static seats to control the opening and closing of said de-header valve, said blind providing a seal between said dynamic, live loaded seat and said static seat, said coke drum is de-headed, thus preparing said coke drum for the removal of said coke, by actuating said blind from a closed, sealed position, to an open position thereby causing said coke that has accumulated on said blind and within [\*1378] said valve to be sheared from said blind.

'714 patent, claim 14 (emphasis added).

According to the trial court, the term "adjustable" in claim 14 means that the bias force on the live loaded seat can be changed in a manner that is "not limited by any time, place, manner, or means of adjustment." Preliminary Injunction Order, slip op. at 16. Based on that construction, the trial court concluded that Curtiss-Wright had shown a reasonable likelihood of success on the merits of its infringement claim. Id., slip op. at 18. The trial court observed that Velan can "adjust" the bias force by replacing the springs in its de-header [\*\*8] valve. Id. After further considering irreparable harm, the balance of hardships, and the public interest, the district court granted Curtiss-Wright's motion for a preliminary injunction. Id., slip op. at 21. Velan appeals.

## II.

"The grant of a preliminary injunction under 35 U.S.C. § 283 is within the discretion of the district court. This court reviews a preliminary injunction decision for an abuse of discretion." *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1370 (Fed. Cir. 2005) (citing *Novo Nordisk of N. Am., Inc. v. Genentech, Inc.*, 77 F.3d 1364, 1367 (Fed. Cir. 1996)). "The court's determination can be overturned only on a showing that it abused its discretion, committed an error of law, or seriously misjudged the evidence." *We Care, Inc. v. Ultra Mark Int'l Corp.*, 930 F.2d 1567, 1570 (Fed. Cir. 1991) (citing *H. H. Robertson, Co. v. United Steel Deck, Inc.*, 820 F.2d 384, 387 (Fed. Cir. 1987)). This court reviews claim construction without deference. *Collegenet, Inc. v. Applyyourself, Inc.*, 418 F.3d 1225, 1230 (citing *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed.

*Cir.*, 1998) [\*\*9] (en banc)); *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996).

The trial court's claim construction followed a logical path. The court first set forth the ordinary meaning of "adjustable": "capable of making a change to something or capable of being changed." Preliminary Injunction Order, slip op. at 10. The court then determined that a narrower construction of "adjustable" would be inconsistent with other claims in the '714 patent, which recite an adjustment mechanism that allows adjustment while the device is in use or operation. Id. at 11-13. In other words, the district court relied on claim differentiation during its claim construction. Finally, the district court explained that any construction of the term "adjustable" that requires the presence of the adjustment mechanism disclosed in the '714 patent would be an impermissible narrowing of that claim term to the structure of the preferred embodiment.

While logical, this chain of reasoning errs because it places too much emphasis on the ordinary meaning of "adjustable" without adequate grounding of that term within [\*\*10] the context of the specification of the '714 patent. Moreover, to the extent this reasoning relies on claim differentiation, it misapplies that limited tool of claim construction.

This court recently reiterated that the specification is the single best guide to the meaning of a claim term. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). In this case, the '714 patent's specification describes the deficiencies of the prior art, including the conventional requirement of removing the entire head unit from the coke drum during de-heading:

[\*1379] [The prior art] assemblies or devices require that the head unit be completely removed from the flange portion of the coke drum after each coking cycle and prior to the purging of the coke from the coke drum. This creates an extreme hazard to workers and provides an inefficient and time consuming procedure.

'714 patent, col. 2, ll. 49-54. The '714 patent specification further extols this invention for overcoming these deficiencies of the prior art:

Another critical aspect of the present [\*\*11] invention is the ability to de-head the coke drum without having to remove the head unit, and to do so at a remote location with little or no manual requirements.

Id. at col. 4, ll. 13-17. The '714 *patent* then associates the adjustability of the live loaded seat with that critical aspect of the invention. In other words, the patent stresses that adjustment occurs during operation and without removal of the head unit:

In a normal coking process, extreme temperatures and pressures are present. Any variation in temperature between the upper and lower surfaces of the blind can cause the blind to bow. If the bowing is allowed to progress or continue, there is a danger in breaking the seal created between [the] upper and lower seats and [the] blind, which could cause damage to the system and upset the manufacturing process. However, the ability of the present invention to adjust the load exerted on [the] blind, utilizing the dynamic, live loaded seat and its adjustment mechanism, provides a way to compensate for or modulate any existing bowing that might occur. By increasing the applied load of the dynamic, live loaded seat on [the] blind, the bowing is substantially [\*\*12] eliminated . . . .

Id. at col. 11, ll. 7-20 (reference numbers omitted). With respect to an alternative embodiment with multiple live loaded seats at different points along the blind, the specification explains:

By allowing point to point adjustability, the system is capable of being fine tuned to decrease the chances of unwanted leaks within the system. For example, if the system were leaking at one location, any one of, or multiple, dynamic seats could be adjusted to compensate and seal the leak.

Id. at col. 15, ll. 33-37.

Thus, the specification of the '714 *patent* consistently, and without exception, describes adjustment that

occurs during operation of the de-header system. The districts court's construction of "adjustable," which includes a structure that requires dismantling of the valve to perform the adjustment, finds no support in the overall context of the '714 *patent* specification.

Moreover, the district court's construction of "adjustable" renders that limitation nearly meaningless. This court finds it difficult, if not impossible, to imagine any mechanical device that is not "adjustable," under the ordinary meaning of that term adopted [\*\*13] by the district court. Almost any mechanical device undergoes change (for instance, when dismantled to replace worn parts) when no consideration is given to the "time, place, manner, or means of adjustment."

This court commends the district court's reluctance to narrow the claims to the preferred embodiment. In this instance, however, that care is admirable but misplaced. This case does not evince a situation where a party is attempting to import a limitation from the specification into the claims. Claim 14 already contains the "adjustable" limitation. Thus, the claim construction task requires this court to discern the meaning of that term in the context of this invention and field of art. [\*1380] The specification provides that context and substantial guidance on the meaning of "adjustable." In light of the specification, the term "adjustable" means that the dynamic, live loaded seat can be adjusted while the de-heading system of claim 14 is in use.

The district court buttressed its broad construction of "adjustable" with a comparison to other independent claims in the '714 *patent*, specifically claims 1 and 18. Those claims recite an adjustment mechanism. See Preliminary Injunction Order [\*\*14] , slip op. at 11-13. As the district court explained:

Because Claims 1 and 18 specifically describe an embodiment possessing [an] external seat adjustment mechanism and Claim 14 does not, the only meaning to be derived from Claim 14 is that it encompasses all devices that are simply "adjustable," or capable of changing the bias force exerted on the sliding gate by the dynamic, live loaded seat, regardless whether these devices possess an adjustment mechanism or not and regardless of the means or time in which this adjustment is made.

Id. Thus, without using the formal label, the district court relied on claim differentiation to reach its broad meaning. The district court's misapplication of that claim con-

struction tool is understandable given the variability of explanations of claim differentiation.

In the most specific sense, "claim differentiation" refers to the presumption that an independent claim should not be construed as requiring a limitation added by a dependent claim. See *Nazomi Commc'ns, Inc. v. Arm Holdings, PLC.*, 403 F.3d 1364, 1370 (Fed. Cir. 2005) ("Claim differentiation 'normally means that limitations stated in dependent claims [\*\*15] are not to be read into the independent claim from which they depend.'" (quoting *Karlin Tech., Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971-72 (Fed. Cir. 1999))); see also *Phillips*, 415 F.3d at 1314-15 (explaining the presumption without invoking the "claim differentiation" label). Thus, the claim differentiation tool works best in the relationship between independent and dependent claims. See *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004) (citing *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302-03 (Fed. Cir. 2003)). Indeed the statute stresses that a dependent claim must add a limitation to those recited in the independent claim. See 35 U.S.C. § 112, P4 (2000) ("[A] claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed.") (emphasis added). Thus, reading an additional limitation from a dependent claim into an independent claim would not only make that additional limitation superfluous, it might render the dependent claim invalid.

Beyond the independent/dependent [\*\*16] claim scenario, this court has characterized claim differentiation more generally, i.e., as the "presumption that each claim in a patent has a different scope." *Versa Corp. v. Ag-Bag Int'l Ltd.*, 392 F.3d 1325, 1330 (Fed. Cir. 2004) (quoting *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998)). Different claims with different words can, of course, define different subject matter within the ambit of the invention. On the other hand, claim drafters can also use different terms to define the exact same subject matter. Indeed this court has acknowledged that two claims with different terminology can define the exact same subject matter. *Tandon Corp. v. U.S. Int'l Trade Comm'n*, 831 F.2d 1017, 1023 (Fed. Cir. 1987); *Hormone Research Found. v. Genentech, Inc.*, 904 F.2d 1558, 1567 n.15 (Fed. Cir. 1990) ("It is not unusual that separate claims may define the invention using different terminology, especially where (as here) independent [\*1381] claims are involved."). In this context, this court has cautioned that "claim differentiation is a guide, not a rigid rule." *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991). [\*\*17]

With those precedents in mind, this court observes that two considerations generally govern this claim construction tool when applied to two independent claims:

(1) claim differentiation takes on relevance in the context of a claim construction that would render additional, or different, language in another independent claim superfluous; and (2) claim differentiation "can not broaden claims beyond their correct scope." *Fantasy Sports Props. v. Sportsline.com*, 287 F.3d 1108, 1115-16 (Fed. Cir. 2002) (quoting *Kraft Foods, Inc. v. International Trading Co.*, 203 F.3d 1362 at 1362). In this case, both of those considerations weigh against the district court's construction of "adjustable."

First, reading "adjustable" to mean adjustable "on the fly" during de-heading does not render the recitation of an adjustment mechanism in other claims superfluous. Even if "adjustable" were synonymous with the presence of an adjustment mechanism, this court perceives no redundancy because the claims that recite the presence of such a mechanism do not include the "adjustable" limitation. Compare '714 patent, claims 1 and 18 with '714 patent, claim 14. As noted before, a patentee may define the same [\*\*18] subject matter with claims having different terminology. *Mycogen Plant Sci. v. Monsanto Co.*, 243 F.3d 1316, 1329 (Fed. Cir. 2001). Moreover, in-use adjustability does not necessarily mean the same thing as the presence of an adjustment mechanism. After all, an adjustment mechanism might be present but not usable during de-heading. To be clear, this court does not venture to construe the scope of the adjustment mechanism limitation in claims 1 and 18, but merely observes that the language of claim 14, as properly construed, does not appear to be commensurate with the language in claims 1 and 18. Thus, while the district court may have been correct that a device encompassed by claim 14 of the '714 patent need not have an adjustment mechanism, it went too far in completely eliminating any constraints on the "adjustable" limitation. Moreover, the district court's construction actually creates a redundancy: if "adjustable" means adjustable at any time and in any way, it is hard to imagine any meaning for the term because without limitations on time or manner of adjustment, all structures are "adjustable."

Second, relying on the claim differentiation presumption in this [\*\*19] case contradicts the correct meaning of claim 14. As discussed above, the specification stresses that the invention is "adjustable" during de-heading. Any construction to the contrary is not consistent with the overall context of this invention and this field of art as described in the specification.

Before the district court, the dispute over Curtiss-Wright's showing of a likelihood of infringement centered on the recognition that Velan's valves must be dismantled for adjustment. Velan argued that its de-heading system did not infringe because the only way to adjust their live loaded seat required removal of the seat to replace its internal biasing springs. The district court re-

438 F.3d 1374, \*, 2006 U.S. App. LEXIS 3521, \*\*;  
77 U.S.P.Q.2D (BNA) 1988

jected that argument because its construction of "adjustable" placed no meaningful limits on that term. Because the district court erred in its claim construction, its subsequent infringement analysis in the context of Curtiss-Wright's motion for a preliminary injunction was flawed. Accordingly, the district court's grant of the preliminary injunction was an abuse of discretion.

#### CONCLUSION

Because the district court erred in its claim construction, this court vacates the [\*1382] district court's grant of Curtiss-Wright's [\*\*20] motion for a preliminary injunction and remands for action consistent with the opinion.

#### COSTS

Each party shall bear its own costs.

VACATED and REMANDED

LEXSEE 211 F3D 1367

IN RE GILBERT P. HYATT

99-1182, (Serial No. 07/419,911)

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

211 F.3d 1367; 2000 U.S. App. LEXIS 9877; 54 U.S.P.Q.2D (BNA) 1664

May 12, 2000, Decided

**PRIOR HISTORY:** [\*\*1] Appealed from: Patent and Trademark Office, Board of Patent Appeals and Interferences. (Serial No. 07/419,911).

**DISPOSITION:** AFFIRMED.

**COUNSEL:** Raphael V. Lupo, McDermott, Will & Emery, of Washington, DC, argued for appellant. Of counsel was Paul Devinsky.

John M. Whealan, Acting Deputy Solicitor, Office of the Solicitor, of Arlington, Virginia, argued for appellee, Commissioner of Patents and Trademarks. With him on the brief were Albin F. Drost, Acting Solicitor, and Raymond T. Chen, Associate Solicitor. Of counsel was Nancy C. Slutter.

**JUDGES:** Before LOURIE, RADER, and BRYSON, Circuit Judges.

**OPINIONBY:** BRYSON

**OPINION:** [\*1369]

BRYSON, Circuit Judge.

This is an appeal from a decision of the Patent and Trademark Office's Board of Patent Appeals and Interferences. The appellant, Gilbert P. Hyatt, seeks review of the Board's decision upholding a patent examiner's action rejecting several claims of Mr. Hyatt's patent application. We affirm the decision of the Board.

I

Mr. Hyatt's application addresses the problem of defects or faults in certain systems, including illumination systems. In an illumination system using display panels with many display devices, the invention compensates for a defect in one [\*\*2] of the devices by using the surrounding devices to generate the intensity that was supposed to be generated by the defective device. Mr. Hyatt refers to

that aspect of his invention as "device detection and intensity sharing." According to the written description, the invention produces an acceptable image "even when 10% to 50% or more" of the devices are faulty.

The four claims at issue are claims 1, 8, 24, and 30. The claims read as follows:

1. A sharing system comprising:

an intensity signal generator generating input intensity signals;

a device detector generating device condition signals;

a sharing generator coupled to the intensity signal generator and to the device detector and generating shared intensity signals in response to the input intensity signals and in response to the device condition signals; and a plurality of devices coupled to the sharing generator and excited by the shared intensity signals.

8. An array system comprising:

an intensity signal generator generating input intensity signals;

a device detector generating device condition signals;

a sharing generator coupled to the intensity signal generator and to the device detector [\*\*3] and generating shared intensity signals in response to the input intensity signals and in response to the device condition signals; and an array of devices coupled to the sharing generator and excited by the shared intensity signals.

24. A display system comprising:

a display signal generator generating input illumination intensity display signals;

a fault detector generating fault condition signals;

a sharing generator coupled to the display signal generator and to the fault detector and generating shared illumination intensity display signals in response to the input illumination intensity display signals and in response to the fault condition signals; and a plurality of display devices coupled to the sharing generator and excited by the shared illumination intensity display signals.

30. A liquid crystal display system comprising:

a display signal generator generating input illumination intensity display signals;

[\*1370]

a degraded device memory storing degraded liquid crystal device condition signals to identify a degraded liquid crystal device;

a sharing generator coupled to the display signal generator and to the degraded device and generating shared [\*4] illumination intensity display signals in response to the input illumination intensity display signals and in response to the degraded liquid crystal device condition signals; and a plurality of liquid crystal display devices coupled to the sharing generator and excited by the shared illumination intensity display signals.

In reviewing the prior art, the examiner focused on U.S. Patent No. 4,825,201 to Watanabe et al., which discloses a display error detection and correction system. The examiner found many of the claims of the application distinguishable over Watanabe because they explicitly recite limitations "directed to changing the intensity of devices adjacent to the defective device to compensate for the intensity of the defective device." The examiner, however, rejected the four claims at issue in this appeal on the ground of anticipation, finding that because they do not expressly recite the limitations of changing the intensity of adjacent devices to correct for a defect, they are not distinguishable over the second embodiment disclosed in Watanabe.

The Watanabe patent discloses an "optical measuring device" positioned in front of an array of display units.

The optical [\*5] measuring device measures various optical properties of the display units, including brightness and color tone. The optical measuring device generates a signal that is sent to the "correction-value determining device," which calculates both the position of the display unit that needs correction and the "correction value" to be applied to that display unit. The correction-value determining device includes a central processing unit, a read-only memory, and a random access memory. Based on the signal from the optical measuring device and on stored data for running the program, the correction-value determining device generates a "correction signal" that is sent to a controller, which in turn transmits a correction data signal to correction circuits connected to the display units. Although the correction data signal is available to all of the correction circuits, the controller enables only the particular correction circuit corresponding to the display unit that needs correction. Thus, the correction data from the controller is transmitted through only the correction circuit corresponding to the display unit that needs correcting.

On appeal, the Board of Patent Appeals and Interferences [\*6] upheld the rejections. The Board adopted the examiner's findings that various features in Watanabe anticipate the claimed intensity signal generator, the claimed device detector, the claimed sharing generator, and the claimed plurality of devices. With respect to the "sharing" limitation, the Board found that Watanabe's correction data signal is shared by all of the display devices — and thus meets the sharing limitation found in all four claims — because it is available to all of the correction circuits, even though it is transmitted through only that correction circuit corresponding to the display unit that needs correction. The Board agreed with the examiner in rejecting Mr. Hyatt's argument that the sharing limitation in each of the rejected claims incorporates the requirement for changing the intensity of the devices adjacent to the defective device in order to compensate for the intensity of the defective device. Because it found that the correction data signal in Watanabe is available to all of the correction circuits at the same time, the Board found that Watanabe discloses the "sharing" limitation of all four rejected claims when that limitation is given its broadest reasonable [\*7] interpretation consistent with the specification.

[\*1371] II

A

In challenging the Board's decision, Mr. Hyatt first argues that the examiner and the Board failed to analyze the claims on an element-by-element and claim-by-claim basis. That failure, according to Mr. Hyatt, renders the Board's decision inadequate under our holding



in *Gechter v. Davidson*, 116 F.3d 1454, 43 U.S.P.Q.2D (BNA) 1030 (Fed. Cir. 1997).

The central thrust of *Gechter* is that the Board must explain the basis for its rulings sufficiently to enable meaningful judicial review. *Gechter*, 116 F.3d at 1458, 43 U.S.P.Q.2D (BNA) at 1033. As we stated, "For an appellate court to fulfill its role of judicial review, it must have a clear understanding of the grounds for the decision being reviewed," which requires that "necessary findings must be expressed with sufficient particularity to enable [the] court, without resort to speculation, to understand the reasoning of the Board, and to determine whether it applied the law correctly and whether the evidence supported the underlying and ultimate fact findings." *Id.* at 1457, 43 U.S.P.Q.2D (BNA) at 1033. Under that standard, the court in *Gechter* concluded [\*8] that it could not properly review the Board's decision to reject the claim at issue for anticipation because the Board's decision addressed only one of several limitations in the claim. In addition, the court found that it was not clear from the Board's discussion what construction it had placed on the one limitation that it did discuss. *Id.* at 1459-60, 43 U.S.P.Q.2D (BNA) at 1035.

In this case, the Board addressed the limitations of each claim in a manner adequate to permit judicial review. In particular, in his answer to Mr. Hyatt's appeal before the Board of Patent Appeals and Interferences, the examiner explained which aspects of Watanabe anticipate each of the limitations of claim 1. With respect to the critical terms "sharing" and "shared intensity signals," the examiner pointed out that "there is no structural recitation providing patentably distinguishing language regarding the disclosed feature of adjusting the brightness of adjacent devices to compensate for the brightness of a defective device." That statement implicitly construes the "sharing" limitation to embrace its broadest common meaning — to "undergo in common." Webster's New International Dictionary [\*9] 2087 (3d ed. 1968). The Board adopted the examiner's analysis with additional remarks explaining why the "sharing" limitation was found in Watanabe. With respect to the remaining claims, the examiner explained that those claims are not materially different from claim 1 and that the patentability of those claims stands or falls with claim 1.

While the explanation given by the examiner and the Board could have been more expansive, particularly with regard to claims 8, 24, and 30, their analysis is sufficient to apprise us of the basis on which they rejected each of the disputed claims. Accordingly, we decline the invitation to vacate the Board's decision on the ground that it failed to explain its reasoning sufficiently to enable us to review its rulings.

## B

On the merits, Mr. Hyatt argues that the examiner and the Board were incorrect in finding that the Watanabe reference anticipates the four rejected claims. At its core, Mr. Hyatt's argument is that rejected claims 1, 8, 24, and 30 are distinguishable over Watanabe because they are directed to changing the intensity of devices surrounding the defective device in order to compensate for the intensity of the defective device.

Three [\*10] general and undisputed propositions guide our review of the Board's decision. First, anticipation is a question of fact. See *Bischoff v. Wethered*, 76 U.S. (9 Wall.) 812, 814-15, 19 L. Ed. 829 (1869); *In re Schreiber*, 128 F.3d 1473, 1477, 44 U.S.P.Q.2D (BNA) 1429, 1431 (Fed. Cir. [\*1372] 1997). Second, we uphold decisions of the Board on factual matters if there is substantial evidence in the record to support the Board's findings. See *In re Gartside*, 203 F.3d 1305, 1315, 53 U.S.P.Q.2D (BNA) 1769, 1775 (Fed. Cir. 2000). Third, during examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification. See *In re Graves*, 69 F.3d 1147, 1152, 36 U.S.P.Q.2D (BNA) 1697, 1701 (Fed. Cir. 1995); *In re Etter*, 756 F.2d 852, 858, 225 U.S.P.Q. (BNA) 1, 5 (Fed. Cir. 1985) (en banc). That last proposition "serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified," *In re Yamamoto*, 740 F.2d 1569, 1571, 222 U.S.P.Q. (BNA) 934, 936 (Fed. Cir. 1984), and it is not unfair to applicants, because "before a patent is granted the claims are readily [\*11] amended as part of the examination process," *Burlington Indus., Inc. v. Quigg*, 822 F.2d 1581, 1583, 3 U.S.P.Q.2D (BNA) 1436, 1438 (Fed. Cir. 1987). Operating in conjunction as they do in this case, these three propositions make the applicant's task on appeal to this court a daunting one.

We agree with the Board that most of the elements of the four disputed claims are clearly anticipated by Watanabe. First, the optical measuring device disclosed in Watanabe detects the state of various optical properties of each of the devices in an array of devices and generates signals that reflect the state of those properties. Mr. Hyatt argues that the "device detector" limitation requires the sensing of a defective or faulty panel, not simply the measurement of the illumination properties of a device. The broadest reasonable interpretation of the claim limitation, however, includes the detection of the condition of a device, such as its illumination properties. In addition, an improper illumination condition can be considered a fault or defect. Thus, the optical measuring aspect of Watanabe anticipates the "device detector [or fault detector] generating device [or fault] condition [\*12] signals."

Second, the correction-value determining device of Watanabe anticipates the "intensity signal generator" or "display signal generator" recited as the first limitation in each of the disputed claims. The correction-value determining device generates correction signals based in part on signals received from the optical measuring device. Under a properly broad reading of "intensity" and "display" signals, the correction signal meets the "generates input intensity signals" or "input illumination intensity display signals" limitation further required by each claim.

Third, Watanabe discloses an array or plurality of devices, which can include liquid crystal display panels, that are excited by the correction signals originating in the controller. Except for the references to the "sharing" generator and the "shared" intensity signals, Watanabe thus plainly anticipates the fourth limitation of the four disputed claims as well.

The difficult question in the case is whether Watanabe anticipates the third limitation of each claim, which calls for a "sharing generator" that "generates shared intensity signals" (or "shared illumination intensity display signals"). Mr. Hyatt argues that [\*13] in order to be "shared," the intensity signals or illumination intensity display signals must be received by more than one display device at the same time. The examiner and the Board, on the other hand, interpreted the term "shared" to require only that the intensity signal (or illumination intensity display signal) be available to more than one of the correction circuits, even if only one of the correction circuits transmits the signal to its corresponding display device.

In light of the rule that the Board must give claims their broadest reasonable construction, we uphold the Board's decision with respect to the definition of the terms "shared" and "sharing" in Mr. Hyatt's application. The specification, although lengthy, contains no definition of "shared" or "sharing" that would require the Board to construe those limitations in the narrower [\*1373] manner asserted by Mr. Hyatt. The Board's interpretation of those terms, although broad, is not unreasonable.

Mr. Hyatt attempts to distinguish Watanabe by arguing that the correction signal is available to only one of the correction circuits at any given time. For support, he refers to the relevant Watanabe drawing, which shows a curved line [\*14] connecting each input of the correction circuits to a common line to which the signal is applied. The significance of that symbol, he asserts, is that the wire to an input is taken from a bundle of wires and is

thus independent of the remaining wires in the bundle.

Mr. Hyatt did not make this argument in his brief to the Board; instead, he raised it for the first time in his second request for rehearing before the Board. Because the Board in its decision on Mr. Hyatt's first request for rehearing did not alter its position with respect to the anticipation ruling on claims 1, 8, 24, and 30, Mr. Hyatt was not entitled under Board rules to file a second request for rehearing on that issue. See 37 C.F.R. § 1.197(b) (appellant may file one request for rehearing "unless the original decision is so modified by the decision on rehearing as to become, in effect, a new decision, and the Board of Patent Appeals and Interferences so states"). In its response to Mr. Hyatt's second request for rehearing, the Board expressly relied on 37 C.F.R. § 1.197(b) in refusing to consider the request. Mr. Hyatt's argument about the nature of the connection circuits shown in Watanabe was therefore not [\*15] properly before the Board. As such, he is not entitled to rely on it as a basis for overturning the Board's decision. See *In re Schreiber*, 128 F.3d at 1479, 44 U.S.P.Q.2D (BNA) at 1433; *In re Wiseman*, 596 F.2d 1019, 1022, 201 U.S.P.Q. (BNA) 658, 661 (CCPA 1979); *In re Fong*, 54 C.C.P.A. 1482, 378 F.2d 977, 981, 154 U.S.P.Q. (BNA) 25, 28-29 (CCPA 1967).

In any event, the Watanabe drawing clearly shows the common line to consist of N channels, with N channels also entering each input to a correction circuit. The channels correspond to the N-bits of a correction signal, as disclosed in the Watanabe written description. Thus, the correction signal reaches the input of all of the correction circuits, contrary to Mr. Hyatt's contention.

One further point remains. The second limitation of claim 30 in Mr. Hyatt's application refers to a "degraded device memory storing degraded liquid crystal device condition signals to identify a degraded liquid crystal device." Mr. Hyatt argues in passing in his brief that the examiner and Board did not establish what in Watanabe is relied on to be a "degraded device memory storing degraded liquid crystal device condition signals." The [\*16] short answer to that objection is that in Watanabe the degraded device information, i.e., the output of the device detector, is stored in memory that Watanabe specifically notes is found in the correction-value determining device. The Board therefore did not err in deciding that claim 30, like related claims 1, 8, and 24, is anticipated by Watanabe.

AFFIRMED.

IN RE CHARLES P. MORRIS, KENNETH L. POTTEBAUM and JOHN D. STRICKLIN

96-1425

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

127 F.3d 1048; 1997 U.S. App. LEXIS 23771; 44 U.S.P.Q.2D (BNA) 1023

September 10, 1997, Decided

**SUBSEQUENT HISTORY:** [\*\*1]

Opinion herein Amended September 10, 1997. Order Granting Rehearing and Declining Suggestion for Rehearing In Banc September 22, 1997, Reported at: 1997 U.S. App. LEXIS 27092.

**PRIOR HISTORY:** Appealed from: Patent and Trademark Office Board of Patent Appeals and Interferences. (Serial No. 07/673,967).

Original Opinion of August 18, 1997, Reported at: 1997 U.S. App. LEXIS 21713.

**DISPOSITION:** Petition for Rehearing Granted. Board's decision reaffirmed.

**COUNSEL:** Richard H. Stern, Ablondi, Foster, Sobin & Davidow, of Washington, D.C., for appellants. Of counsel are Bill D. McCarthy, Randall K. McCarthy, Phillip L. Free, Jr., McCarthy & Associates, Inc., of Oklahoma City, Oklahoma, and Edward P. Heller, III, Seagate Technology, Inc., of Scotts Valley, California.

Nancy J. Linck, Solicitor, Patent and Trademark Office, U.S. Department of Commerce, of Arlington, Virginia, for appellee. Of counsel are Albin F. Drost, Deputy Solicitor, Kenneth R. Corsello and David J. Ball, Jr., Associate Solicitors.

**JUDGES:** Before PLAGER, CLEVINGER, and BRYSON, Circuit Judges.

**OPINIONBY:** PLAGER

**OPINION:** [\*1049] ORDER

Appellants Morris et al. petition for rehearing of the decision of this court issued under date of August 18, 1997.

Appellants point to several statements in the issued opinion which, in their view, entitle them to rehearing of their appeal. After thorough review of the petition, the court grants the petition for rehearing for the limited [\*\*2] purpose of laying to rest any doubts about the court's views as expressed in the opinion; the judgment affirming the decision of the Board is reaffirmed.

SO ORDERED.

AMENDED OPINION

PLAGER, Circuit Judge.

Appellants Morris, Pottebaum, and Stricklin appeal from a decision of the Board of Patent Appeals and Interferences in Application Ser. No. 07/673,967, dated March 28, 1996. In that decision the Board affirmed a rejection of appellants' claims 1, 5 and 20 under 35 U.S.C. § 102(b). Because the Board did not err in its reading of appellants' claims, we affirm.

**BACKGROUND**

On March 22, 1991, appellants filed a patent application entitled "Acoustic Isolator for a Disc Drive Assembly." The application was assigned Ser. No. 07/673,967 by the United States Patent and Trademark Office [\*1050] ("PTO") and prosecution of the application proceeded.

The problem addressed in the application was the acoustic noise generated by a disc drive as a result of the physical movement of the internal motors. According to the application, modern disc drives such as used in personal computers include two motors, also referred to as "excitation sources." The first is a spindle motor that spins the magnetic [\*\*3] discs upon which data is stored. The second is an actuator motor that moves a read/write head across the discs to access specific locations or "tracks" on the discs. These motors are mounted in a disc housing. The housing is typically comprised of

an upper and a lower housing cover that mate together to enclose the entire disc drive. The problem described in the application is that any vibration of the motors is transmitted to the housing by virtue of the connection of the motors to the housing. This causes the housing to vibrate in sympathy with the motors, particularly if the resonant frequency of the motor corresponds to the natural frequency of either of the housing covers.

Prior art solutions addressed this problem by adding an isolator between the motors and the housing. For example, United States Patent No. 4,491,888 (the "Brown" patent) taught the use of an annular elastomeric pad to absorb the vibrations. As described and shown in Brown, the "elastomeric member or pad 100 is engaged between the base plate [32] and lower casing [12] . . . to assist in dampening actuator-induced vibrations." Brown, Col. 7, lines 32-47. Figure 2 of Brown, showing a cross-section of the [\*\*4] pad 100 and surrounding housing 12, is reproduced below.

The disadvantage of Brown, according to appellants, was that it required an additional part. This may not seem significant to those unfamiliar with the disc drive industry, but, in the cost-sensitive and constantly miniaturizing world of disc drive manufacturers, additional pieces of equipment add to the cost of the disc drive and consume valuable real estate in the drive.

Appellants' approach was different from the approach taken in Brown. Instead of adding an additional part, appellants thinned down a portion of the motor casing in the area where the motor attached to the casing. This thinned-down area, referred to as a "compliance area," absorbs most of the kinetic energy produced by the motor because of its reduced thickness, without radiating that energy outward to the remainder of the housing. Appellants maintained in their application that acoustic noise can be significantly reduced using this approach, and without additional parts.

Figure 3 of the appellants' application, reproduced below, shows a partially detailed cross-sectional view of a disc drive according to their invention. The disc drive includes [\*\*5] a top housing cover 12A and a bottom housing cover 14A. A motor 16 is attached to the top and bottom covers by screws 32A. A portion of the top and bottom covers 50A is thinned-down in an area extending radially away from the screws 32A. This "compliance area," [\*1051] due to its reduced thickness relative to the remaining housing, achieves the acoustic noise reduction of the applicants claimed invention.

The application included 22 claims. Original claim 1 read:

1. An improved acoustic isolation apparatus for reducing the acoustic noise produced by a system having at least one excitation source disposed so as to impart vibrations to a structure member coupled thereto, the acoustic isolation apparatus comprising:

at least one acoustic isolator providing determined compliance of the structure member in a selected area of compliance disposed to impede coupling of the vibrations of the excitation source and the structure member.

In a first office action, claim 1 was rejected as being anticipated under 35 U.S.C. § 102(b) in view of appellants' admitted prior art and also in view of Brown. n1 The admitted prior art was essentially identical to applicant's Figure 3, shown [\*\*6] above, but the "compliance area" amounted to a counter-sink hole simply big enough to receive the head of the screw 32A.

n1 All of the other claims were also rejected on the same grounds. Because all of the appealed claims stand or fall with claim 1, we will confine our discussion to the prosecution history of claim 1.

In response to this rejection, appellants amended claim 1 as follows, with language removed enclosed in square brackets and language added underlined:

1. (Amended) An improved acoustic isolation apparatus for reducing the acoustic noise produced by a system having at least one excitation source disposed so as to impart vibrations to a [structure] support member coupled thereto, the acoustic isolation apparatus comprising:

at least one acoustic [isolator providing determined compliance of the structure member in] compliance area integrally formed on a selected area of [compliance disposed] the support member so as to impede coupling of the vibrations of the excitation [\*\*7] source [and] to the [structure] support member.

[\*1052] In addition, appellants argued that Brown is distinguishable because it "does not teach or suggest an acoustic isolator apparatus which is integrally formed as part of the housing." The appellants then went on to describe Brown in general terms and concluded that "it is clear that the base plate and housing arrangement disclosed in Brown '888 is completely different in structure than the acoustic isolator apparatus recited in Applicants' claims 1-22, as amended."

In response to appellants' amendment and related arguments, the examiner entered a new ground of rejection. Claim 1 was rejected under the same section of the statute, Section 102(b), but using a different reference, Biermeier et al., U.S. Patent No. 4,780,777. Biermeier showed a thin, substantially horse-shoe shaped resilient section adjacent to the spindle of the drive shaft in a disc drive housing to provide a support for the spindle of a disc and to achieve bearing preload. Biermeier, Col. 4, lines 53-68. According to the examiner, Biermeier showed "a resilient wall region 15 integrally formed on the housing 1 which would impede coupling of vibrations of [\*\*8] the excitation source 38 to the support member 1 while maintaining rigidity of the housing assembly." The examiner further stressed that Biermeier does show "an acoustic isolator apparatus which is integrally formed as part of the housing."

The appellants responded by once again amending their claim and by attempting to distinguish the cited reference. Claim 1 after this second amendment read:

1. (Twice Amended) An improved acoustic isolation apparatus for reducing the acoustic noise produced by a system having at least one excitation source [disposed so as to impart vibrations] attached at a contact point to a support member, the acoustic isolation apparatus comprising:

at least one acoustic compliance area integrally formed on a selected area of the support member so as to impede selected frequencies of acoustic noise resulting from the coupling of the vibrations of the excitation source to the support member, the acoustic compliance area formed on the support member such that increased compliance is provided to the support member substantially surrounding the contact point.

Appellants vigorously contested the examiner's assertion that the [\*\*9] Biermeier resilient section achieved any acoustic reduction. If Biermeier achieved any acoustic reduction, according to appellants, "it was pure happenstance."

After considering the amendment and related arguments, the examiner shifted back to his original ground for rejection--Brown. In a third office action, the examiner again rejected claim 1 as being anticipated by Brown under Section 102(b). According to the examiner, "Brown et al show an acoustic compliance area 100 integrally formed on a selected area of the support member 12 so as to impede selected frequencies of acoustic noise resulting from the coupling of the vibrations of the excitation source 92 to the support member 12." The examiner considered the appellants' arguments with respect to Biermeier moot in view of the new ground of rejection.

A third amendment to claim 1 followed. The amended claim 1 now read:

1. (Thrice Amended) An improved acoustic isolation apparatus for reducing the acoustic noise produced by a system having at least one excitation source attached at a contact point to a support member, the acoustic isolation apparatus comprising:

at least one acoustic compliance area integrally formed [\*\*10] [on] as a portion of a selected area of the support member so as to impede selected frequencies of acoustic noise resulting from the coupling of the vibrations of the excitation source to the support member, the acoustic compliance area formed [on] as a portion of the support member such that [increased compliance is provided to] the support member has increased compliance substantially surrounding and extending radially about the contact point.

Appellants tried to distinguish Brown on the ground that the patent "does not teach or suggest an acoustic isolator apparatus which is 'integrally formed as a portion of the [\*1053] housing." Moreover, according to appellants, Brown failed to accomplish the main objectives of the invention, that of reducing space and parts requirements. Because the acoustic compliance area of the claimed invention is "integrally formed as a portion of the support member," appellants argued their claimed invention

achieves the goal of reducing acoustic noise without the concomitant disadvantages of Brown.

The examiner was unpersuaded. Accordingly, he made the rejection final. n2 See 37 C.F.R. § 1.113. In the final rejection the examiner [\*\*11] reiterated his position that "the language 'integrally formed as a portion of' (e.g. a selected area, the housing assembly or the support member) still reads on the acoustic compliance area 100 of Brown et al."

n2 The examiner did, however, allow claims 10-19 and 23 and merely objected to claim 21. Claim 10, for example, reads:

10. An improved acoustic isolation apparatus for a disc drive assembly having an external housing with a lower surface and a top surface, the disc drive assembly including at least one excitation source secured to and between the lower and top surfaces of the housing at contact points, whereby vibration of the excitation source is coupled to the housing to cause the housing to vibrate so as to create acoustic noise, the improved acoustic isolation apparatus comprising:

at least one high compliance area formed as a portion of one of the surfaces of the housing which surrounds and extends radially about the contact point on said surface, the high compliance area having a thickness substantially less than the thickness of the remainder of the surface, the high compliance area minimizing the passage of the excitation source vibrations from the contact point to the remainder of the surface so that overall acoustic noise is reduced thereby.

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Dissatisfied with the examiner's rejection, appellants appealed to the Board of Patent Appeals and Interferences. The Board framed the issue presented on appeal as "the propriety of the examiner's considering the elastomeric pad 100 formed of foam rubber and best shown in figures 2 and 3 of Brown as comprising the claimed

acoustic compliance area of a support member or of a housing." Appellants argued before the Board that the elastomeric pad 100 of Brown is neither "integrally formed" nor "a portion of" the housing assembly to which it is attached, as those terms are used in appellants' patent application. Appellants urged that the proper interpretation of the disputed language in their proposed claim, in light of the specification, required the examiner to limit the scope of the claim to a thinned-down portion of a housing. The Board disagreed and therefore affirmed the examiner's rejection.

The Board cited numerous CCPA decisions including *In re Kohno*, 55 C.C.P.A. 998, 391 F.2d 959, 157 U.S.P.Q. (BNA) 275 (CCPA 1968), *In re Dike*, 55 C.C.P.A. 1172, 394 F.2d 584, 157 U.S.P.Q. (BNA) 581 (CCPA 1968), *In re Larson*, 52 C.C.P.A. 930, 340 F.2d 965, 144 U.S.P.Q. (BNA) 347 (CCPA 1965), and *In re Clark*, 41 C.C.P.A. 974, 214 F.2d 148, 102 U.S.P.Q. (BNA) 241 (CCPA 1954), in which [\*\*13] the term "integral" had been given a broader meaning than that advanced by the appellants. According to the Board, "the term 'integral' is a relatively broad term inclusive of means for maintaining parts in a fixed relationship as a single unit." The appellants' interpretation, according to the Board, impermissibly required them to read limitations of the specification into the appealed claims. Under the proper interpretation of the disputed language, the Board concluded that the examiner correctly rejected claim 1 as being anticipated by Brown. This appeal followed.

## DISCUSSION

As a preliminary matter the parties disagree about the proper claim construction methodology to be employed by the PTO. Appellants argue that this court's in banc decisions in *Markman v. Westview Instruments*, 52 F.3d 967, 34 U.S.P.Q.2D (BNA) 1321 (Fed. Cir. 1995) (in banc), aff'd, 517 U.S. 370, 134 L. Ed. 2d 577, 116 S. Ct. 1384, 38 U.S.P.Q.2D (BNA) 1461 (1996), and in *In re Donaldson*, 16 F.3d 1189, 29 U.S.P.Q.2D (BNA) 1845 (Fed. Cir. 1994) (in banc), require the PTO in the course of prosecution to interpret claims in the same manner as courts are required to during infringement proceedings. The Solicitor responds by arguing that our past decisions [\*\*14] permit the PTO to give claim language its "broadest reasonable interpretation" during prosecution, citing [\*1054] *In re Zletz*, 893 F.2d 319, 13 U.S.P.Q.2D (BNA) 1320 (Fed. Cir. 1989), *In re Yamamoto*, 740 F.2d 1569, 222 U.S.P.Q. (BNA) 934 (Fed. Cir. 1984), and *Burlington Indus. v. Quigg*, 822 F.2d 1581, 3 U.S.P.Q.2D (BNA) 1436 (Fed. Cir. 1987).

The Solicitor is correct, and we reject appellants' invitation to construe either of the cases cited by appellants so as to overrule, sub silentio, decades old case law.

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Some cases state the standard as "the broadest reasonable interpretation," see, e.g., *In re Van Geuns*, 988 F.2d 1181, 1184, 26 U.S.P.Q.2D (BNA) 1057, 1059 (Fed. Cir. 1993), others include the qualifier "consistent with the specification" or similar language, see, e.g., *In re Bond*, 910 F.2d 831, 833, 15 U.S.P.Q.2D (BNA) 1566, 1567 (Fed. Cir. 1990). Since it would be unreasonable for the PTO to ignore any interpretive guidance afforded by the applicant's written description, either phrasing connotes the same notion: as an initial matter, the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification.

Had either of the cases cited by appellants intended to make the dramatic shift in our jurisprudence suggested by appellants one can safely assume they would have done so explicitly. We need not, however, rely solely on assumption or inference. Both cases are readily distinguishable from the present case. The first, *Markman*, involved an infringement suit in the district court. This is a distinction with a difference. Patents in infringement suits are presumed valid by statute. 35 U.S.C. § 282 (1994). No such presumption attaches before the PTO. It is the PTO's duty to assure that the statutory requirements for patentability are met. See 35 U.S.C. § 131 (1994). These requirements include 35 U.S.C. § 101 (utility), 102 (novelty), § 103 (nonobviousness), § 112 P1 (enablement, written description, and best mode) and § 112 P2 (particularly point out and distinctly claim).

n3 Despite the language in Section 102, there is no such presumption before the issuance of a patent. Compare 35 U.S.C. § 102 ("A person shall be entitled to a patent unless . . .") with 35 U.S.C. § 282 ("A patent shall be presumed valid."). The presumption does not attach until a patent has issued.

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It would be inconsistent with the role assigned to the PTO in issuing a patent to require it to interpret claims in the same manner as judges who, post-issuance, operate under the assumption the patent is valid. The process of patent prosecution is an interactive one. Once the PTO has made an initial determination that specified claims are not patentable (the prima facie case concept, see *In re Oetiker*, 977 F.2d 1443, 1448, 24 U.S.P.Q.2D (BNA)

1443, 1447 (Fed. Cir. 1992) (Plager, J. concurring)), the burden of production falls upon the applicant to establish entitlement to a patent. See *In re Spada*, 911 F.2d 705, 708, 15 U.S.P.Q.2D (BNA) 1655, 1658 (Fed. Cir. 1990); *In re King*, 801 F.2d 1324, 1327, 231 U.S.P.Q. (BNA) 136, 138 (Fed. Cir. 1986) (burden shifts to appellant after the PTO establishes a prima facie case of anticipation). This promotes the development of the written record before the PTO that provides the requisite written notice to the public as to what the applicant claims as the invention. As the Supreme Court recently affirmed, public notice is an important objective of patent prosecution before the PTO. See *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 137 L. Ed. 2d 146, 117 S. Ct. 1040, [\*\*17] 1051 (1997) (establishing a rebuttable presumption of prosecution history estoppel when the public record is unclear as to whether the prior art precipitated an amendment to the claims in order to give "proper deference to the role of claims in defining an invention and providing public notice.").

Although *In re Donaldson* comes closer to the present case, it still fails to prove appellants' point. In *Donaldson*, this court considered the question of how the PTO was required to interpret claims drafted pursuant to 35 U.S.C. § 112 P6, claims in so-called "means-plus-function" language. See 35 U.S.C. § 112 P6 (1994) ("An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of the structure, [\*1055] material, or acts in support thereof."). The PTO argued that they were permitted to interpret the claims as broadly as the claim language permitted without the constraint of the written description contained in the specification. The *Donaldson* court, in banc, noted that the statute requires that claims so written "shall be construed to cover the corresponding structure, material, or acts described in [\*18] the specification and equivalents thereof." *Donaldson*, 16 F.3d at 1193, 29 U.S.P.Q.2D (BNA) at 1848-49. The court found no basis in the statute or legislative history for exempting the PTO from this statutory mandate. Therefore the PTO is required to consult the specification during examination in order to determine the permissible scope of the claim.

It is enough to point out that this case does not involve claims written in means-plus-function language to distinguish *Donaldson* from the present case. There is no comparable mandate in the patent statute that relates the claim scope of non- § 112 P6 claims to particular matter found in the specification. See *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*, 114 F.3d 1547, 1552, 42 U.S.P.Q.2D (BNA) 1737, 1740 (Fed. Cir. 1997) ("The claim language itself defines the scope of the claim.").

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We need not simply rely on this distinction, however, for the Donaldson court went on to dispose of the precise argument that appellants now make. The PTO had argued that our prior case law, as discussed above, permitted examiners to give claims their "broadest reasonable interpretation" during prosecution. See, e.g., *In re Prater*, 56 C.C.P.A. 1381, 415 [\*\*19] F.2d 1393, 1404-05, 162 U.S.P.Q. (BNA) 541, 550-51 (CCPA 1969). Limiting claims written in accordance with § 112 P6 to what is described in the specification and equivalents thereof, according to the PTO, would conflict with this practice. Donaldson itself pointed out that the court's holding is readily harmonized with that principle. Requiring the PTO to interpret claims in light of the specification "merely sets a limit on how broadly the PTO may construe means-plus-function language under the rubric of 'reasonable interpretation.'" *Donaldson*, 16 F.3d at 1194, 29 U.S.P.Q.2D (BNA) at 1850. Therefore, it cannot reasonably be argued that Donaldson overruled our long line of case law that permits the PTO to give claims their "broadest reasonable interpretation."

The question then is whether the PTO's interpretation of the disputed claim language is "reasonable." Appellants contend that the Board's interpretation is unreasonable when the claim language is properly construed in light of the specification and other extrinsic evidence. In particular, appellants argue that the phrase "integrally formed as a portion of" requires the compliance area to be "fused together" with the housing "to form [\*\*20] a single part--such as by casting them as a molded article, machining a single piece of material to form them, welding them together, or otherwise joining them in a firm and substantially permanent manner." Brief for Appellants at 18. Because the elastomeric pad of Brown is "removably coupled," according to appellants, Brown does not anticipate claim 1 when properly construed. *Id.*

The examiner stated in his third rejection that he interpreted the phrase "integrally formed as a portion of a selected area of the support member" to read on Brown. By this the examiner clearly meant that he interpreted the phrase "integrally formed" to encompass devices that had a compliance area fixedly attached to a support member, as in Brown. The examiner reiterated this interpretation in the final rejection. "It is the Examiner's position that the language 'integrally formed as a portion of' (e.g. a selected area, the housing assembly or the support member) still reads on the acoustic compliance area 100 of Brown et al." The Board also adopted this interpretation citing numerous cases in which the word "integral" had been interpreted broadly to encompass multi-piece structures.

We conclude [\*\*21] that the PTO's interpretation is reasonable in light of all the evidence before the Board. As

the cases cited above demonstrate, our predecessor court had on several prior occasions interpreted the term "integral" to cover more than a unitary construction. See, e.g., *In re Kohno*, 55 C.C.P.A. 998, 391 F.2d 959, 157 U.S.P.Q. (BNA) 275 (CCPA 1968), *In re Dike*, 55 C.C.P.A. 1172, 394 F.2d 584, [\*1056] 157 U.S.P.Q. (BNA) 581 (CCPA 1968), *In re Larson*, 52 C.C.P.A. 930, 340 F.2d 965, 144 U.S.P.Q. (BNA) 347 (CCPA 1965), and *In re Clark*, 41 C.C.P.A. 974, 214 F.2d 148, 102 U.S.P.Q. (BNA) 241 (CCPA 1954). This court has also endorsed that interpretation. See, e.g., *Advanced Cardiovascular Sys. v. Scimed Life Sys.*, 887 F.2d 1070, 1074, 12 U.S.P.Q.2D (BNA) 1539, 1542 (Fed. Cir. 1989) (nothing of record limited "integral" to mean "of one-piece" construction). Appellants' attempt to distinguish these cases misses the point. Absent an express definition in their specification, the fact that appellants can point to definitions or usages that conform to their interpretation does not make the PTO's definition unreasonable when the PTO can point to other sources that support its interpretation.

Appellants argue that their claim does not just require that the acoustic compliance area be integrally [\*\*22] formed from the support member. Instead, claim 1 requires that the area be "integrally formed as a portion of" the support member. This does not change our conclusion. Portion is defined as a "part or share of something." Webster's Third New International Dictionary 1768 (1986). Thus this term tells us nothing about whether the acoustic compliance area is removable or separable from the support member. A slice of pie can be considered a 'portion of the pie while also being removable. We conclude that the added limitation does not overcome the rejection.

The appellants urge us to consult the specification and some of the cited prior art, including Brown, and interpret the disputed language more narrowly in view thereof. When read in light of this material, according to applicants, the "true" meaning of the phrase emerges. We decline to attempt to harmonize the applicants' interpretation with the application and prior art. Such an approach puts the burden in the wrong place. It is the applicants' burden to precisely define the invention, not the PTO's. See 35 U.S.C. § 112 P2 ("The specification shall conclude with one or more claims particularly pointing out and distinctly [\*\*23] claiming the subject matter which the applicant regards as his invention."). While it is true that the claims were not rejected on the ground of indefiniteness, this section puts the burden of precise claim drafting squarely on the applicant.

The problem in this case is that the appellants failed to make their intended meaning explicitly clear. Even though the appellants implore us to interpret the claims



in light of the specification, the specification fails to set forth the definition sought by the appellants. Nowhere in the technical description of the invention does the application use or define the phrase "integrally formed." The phrase briefly appears in the "Summary of the Invention" and again in a description of the "advantages of the present invention." In neither case is a drawing referenced or a precise definition given.

The prosecution history is equally unhelpful in divining the interpretation sought by appellants. In all cases the appellants first describe their invention followed by a general description of the prior art reference. They then conclude with a conclusory statement such as "It is clear that Applicants' inventive concept, as recited in claim 1 (amended), [\*\*24] is not anticipated by the prior art," or, even more vaguely, "it is clear that the base plate and housing arrangement disclosed in Brown '888 is completely different in structure than the acoustic isolator apparatus recited in Applicants' claims." Never do the appellants particularly distinguish their claimed invention (as compared with their "inventive concept," whatever that means) from the prior art. We interpret this as a veiled attempt to avoid the potential future effects of prosecution history estoppel. Such evasiveness we cannot condone, particularly when the public must rely on the written record to define the resulting property right. See *Warner-Jenkinson*, 117 S. Ct. at 1040.

We understand the difficulties that can arise in prosecution. This appeal is a case in point. The PTO initially rejected claim 1 in light of Brown. Appellants amended their claim to add the limitation that the compliance area was "integrally formed on" the support member. This amendment seemed to overcome the examiner's rejection because in response the examiner produced a new ground for the rejection (i.e., Biermeier). That reference showed a thinned-down region [\*1057] of a supporting top member. [\*\*25] The examiner's own actions suggested that the applicants had properly distinguished Brown on the ground that the Brown pad

was not "integrally formed" from the support member, which necessitated the new ground of rejection.

Appellants were apparently able to overcome this new rejection by adding the further limitation that the acoustic isolator eliminated "selected frequencies of acoustic noise" and arguing that Biermeier did not accomplish this claimed function. At this point the applicants had no reason to believe that Brown could properly be the basis for a 102 rejection, having previously distinguished it as well as Biermeier. When the examiner renewed his previous ground of rejection based on Brown, the appellants were no doubt of the view that Brown was distinguishable. Nonetheless, they made their third and final amendment, adding the limitation that the acoustic compliance area be integrally formed "as a portion of" the support member, in an attempt to assuage the examiner. Surely they must have thought this amendment would distinguish Brown; and reasonably so given what had previously transpired. Unfortunately they were mistaken.

Nonetheless, when the examiner renewed [\*\*26] the rejection the applicants had an obligation to either demonstrate that the examiner's interpretation of the claim language was unreasonable or amend their claim to distinguish the prior art. This they did not do. It is apparent that the appellants knew how to claim their invention so as to avoid the prior art since several claims were allowed, some very similar to claim 1. The PTO was not only permitted but obligated to reject claim 1 when appellants failed precisely to define in the written description the disputed language, and there was a reasonable alternative definition.

The decision of the Board is

AFFIRMED.

COSTS

Each party to bear its own costs.

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